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RCA-04/0019/69

Basic Imagery Interpretation Report



**NATIONAL
PHOTOGRAPHIC
INTERPRETATION
CENTER**

25X1

KOSTROMA SAM COMPLEX D04-5

25X1

**DEPLOYED AAA/SAM FACILITIES
USSR
OCTOBER 1968**

COPY NO. 104

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INSTALLATION OR ACTIVITY NAME Kostroma SAM Complex D04-5		COUNTRY UR	25X1
UTM COORDINATES NA	GEOGRAPHIC COORDINATES 58-13-23N 041-38-36E		
MAP REFERENCE SAC. USATC 200, Sheet M0154-14HL, 4th ed, May 66, Scale 1:200,000 (SECRET)			25X1
LATEST IMAGERY USED		NEGATION DATE (if required)	25X1

ABSTRACT

Kostroma SAM Complex D04-5 forms part of the SA-5 barrier defense across the northern periphery of the western USSR. The northern orientation, or preferred direction of fire, of the Kostroma complex is designed to counter an attack from the north.

Preliminary construction activity for the Kostroma SA-5 complex was first observed on photography of [REDACTED]. At present, the complex consists of three launch sites designated A, B, and C; a tracking and guidance facility; support and missile-handling facilities; and an associated air warning radar facility. The complex is in a late stage of construction. All operational components appear to be essentially complete with the exception of Launch Site B, where the missile-ready buildings and rails have yet to be installed. [REDACTED] the complex is considered to have a limited operational capability.

The SA-5 complex has been constructed adjacent to Kostroma SAM Site B05-2. This SA-2 site was maintained in an operational status during construction of the SA-5 complex, but with the operational capabilities of the latter becoming apparent, the SA-2 site shows signs of deactivation.

INTRODUCTION

Kostroma SAM Complex D04-5 (Figure 1), 35 nautical miles (nm) northeast of Kostroma, has an orientation of [REDACTED] and is 450 feet above mean sea level. The secured complex consists of three launch sites, a tracking and guidance facility, support and missile-handling facilities, and an associated air warning radar facility.

The SA-5 complex, which is located in the vicinity of the Kostroma ICBM Complex, forms part of the SA-5 barrier defense across the northern periphery of the western USSR. This line of SA-5 complexes closely follows the 60th parallel, extending from the Kuressaare-Tallinn region east to the Ural Mountains. The northern orientation of the Kostroma SA-5 complex indicates that it is designed to counter an attack from the north.

BASIC DESCRIPTION

All operational components of the Kostroma complex (Figure 2) are in a late stage of construction. As an SA-5 missile was observed at the complex in [REDACTED] the complex is considered to have a limited operational capability. The complex has been constructed adjacent to Kostroma SAM Site B05-2, which was maintained in an operational status during most of the construction of the SA-5 complex. Now that the operational capabilities of the SA-5 complex are apparent, however, the SA-2 site shows signs of deactivation. All launchers, missiles, and the FAN SONG radar have been removed from the SA-2 launch area.

Activity in the area of the Kostroma SA-5 complex was first observed on [REDACTED] and was not evident on [REDACTED]

Launch Area

The launch area consists of three launch sites designated A, B, and C. Except for 2- to 3-month lag in construction activity at Launch Site B, the three launch sites are similar, each consisting of six revetted launch positions (designated 1-6) and a revetted launch site control center. A cable or conduit connects each launch point with the respective launch site control center.

NOTE: This report has been published as an interim Basic Report with the concurrence of DIAAP-9.

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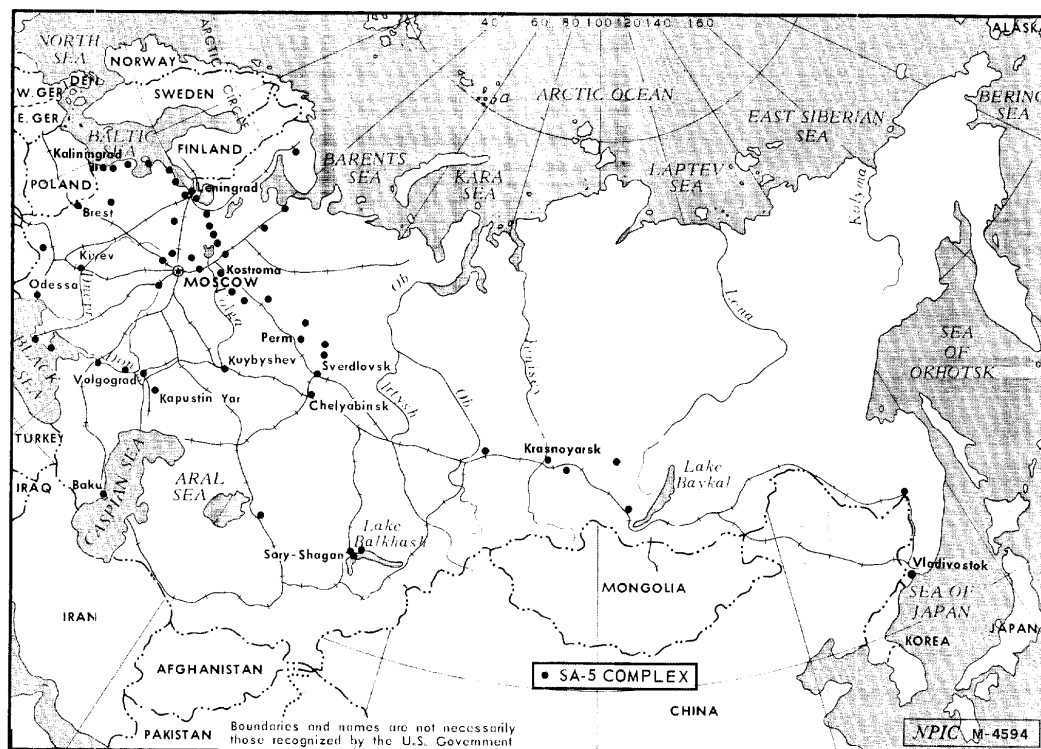


FIGURE 1. LOCATION OF KOSTROMA SAM COMPLEX D04-5, USSR.

Similar revetments at each launch site offer protection from flying debris during a launching. Launch Positions 1 and 6 at each site have a revetment, measuring an average of [] long, immediately behind the launch point. A linear revetment is located just inside, and parallel to, the launch site service road at Positions 1, 2, 5, and 6. The launch point at Positions 2, 3, 4, and 5 at each site has an arc-shaped revetment, and a short linear revetment is behind the missile-ready building at Positions 3 and 4. The launch site control centers each have two parallel linear revetments [] apart with two electronic vans and a generator or converter between the revetments. A building, [] high, and two small structures are near each launch site control center.

Launch Site A

Dollies are visible only at Position 5, where the missile-ready building is still under construction, but they probably are also present at the other launch positions, inside the buildings. Launchers are emplaced at Positions 1, 2, and 3.

Launch Site B

Rails have not been installed, but launchers are observed at all six launch points. The only evidence of construction of missile-ready buildings is the framework at Positions 1 and 6 and piles of construction materials at Positions 2 and 3. In all other respects the site appears to be completed.

Launch Site C

Launch Site C is fully equipped and complete in every detail except for a modification in progress at the launch site control center, where a building is being constructed between the parallel revetments for housing the electronic equipment. If the same pattern is followed here as observed at other SA-5 complexes, this building will be earth covered upon completion. This type of modification was first observed on photography of [] at Liepaja SAM Complex A07-5 and is presumably an attempt to enhance the operational capabilities of the equipment in a tactical situation.

A circular ground scar observed near the launch site control center, similar to those seen at several other SA-5 complexes, is probably a circular buried tank, possibly used to store fuel for the generator or converter.

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Tracking and Guidance Facility

A cable or conduit extends from each launch site to its respective radar position in the tracking and guidance facility, and each of the three radar positions is connected by cable to the tracking and guidance control center. Each radar position is mounded and is occupied by an engagement radar. Each radar mound has an L-shaped equipment revetment at its base, and an arch-roofed building has been constructed in the revetment at Position "a" (Figure 2). No electronic support equipment is visible at Position "a", but there may be vans inside the building. An electronic van and a generator or converter are noted in the equipment revetment at Position "b", and four radar transport vans are observed in a clearing a short distance away. Two electronic vans and a generator or converter are in the equipment revetment at Position "c", and a building is under construction nearby for housing the radar transport vans. The control center is protected by a C-shaped revetment, faced by a 260-foot linear revetment. An arch-roofed building, four electronic vans, and two generators or converters are within the revetment.

Midway between the tracking and guidance facility and Launch Site C is an area of unidentified activity, consisting of a secured area, [] containing a small building and an earthen bunker. This closely resembles activity noted in corresponding areas at Pereslavl-Zalesskiy SAM Complex A29-5 and Kalinin SAM Complex B19-5. At these complexes this facility is connected by trench to the three launch sites, and at Kalinin the bunker is also cable connected to the tracking and guidance facility and the launch area. At this juncture, at the Kostroma complex no trenches or cables connect this area with the other components of the launch complex; however, its additional security, location, size, and overall appearance suggest the possibility of a complex command center, as observed at the Kalinin and Pereslavl-Zalesskiy complexes.

Missile-Handling Facility

The missile-handling facility, directly north of Launch Site B, is used for receiving, checkout, assembly, storage, and fueling of missiles. Two drive-through buildings are along the west road of the facility. One of them, which has nine vans adjacent to it, is probably the checkout building. The other building is probably used for assembly and checkout. West of the latter building is a revetment used for booster, warhead, and fuse storage. Two large tanks and three structures are between the two drive-through buildings. In [] 21 missile shipping canisters are observed between the two drive-through buildings, 17 fin crates are stacked in a row near the assembly building, and an unassembled SA-5 missile is on an assembly dolly midway between the two drive-through buildings. The propellant storage facility, located along the east road of the missile-handling facility, consists of two separate areas, each containing three horizontal tanks. A road extends east from the propellant storage facility to a missile storage building.

Support Facility

The support facility for the SA-5 complex has been constructed adjacent to the previously existing SA-2 support buildings. Since work was initiated on the SA-5 complex, 15 buildings and structures have been newly constructed. Among these are a security building, a batch plant, a heatplant, two barracks-type buildings, a messhall, five unidentified buildings, and four small structures. Seventeen small squad tents have also been set up in this area. A motor pool containing 31 vehicles and pieces of equipment is located east of the batch plant.

Air Warning Radar Facility

The associated air warning radar facility (Figure 3) is 4.2 nm south of the SA-5 complex, on the outskirts of the town of Susanino. The facility consists of four radar mounds, two occupied by BACK NET radars and two by SIDE NET radars. Fourteen electronic support vans are centrally located between the radar mounds. Two buildings, one with an arched roof, are in the facility, and an additional arch-roofed building is under construction. A group of 15 small squad tents are also set up in the facility.

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Item	Description	Roof Type	Dimensions (ft)*
1	Bldg	Arched	25X1
2	Bldg u/c	Flat	
3	Missile-ready bldg (12)	Gabled	
4	Bldg (3)	Gabled	
5	Batch plant	--	
6	Bldg	Gabled/flat	
7	Heatplant	Flat	
8	Security bldg	Flat	
9	Bldg	Gabled	
10	Structure	Gabled	
11	Barracks	Gabled	
12	Barracks	Gabled	
13	Structure	Gabled	
14	Bldg	Flat	
15	Messhall	Flat	
16	Bldg	Flat	
17	Bldg	Gabled	
18	Structure	Gabled	
19	Structure	Shed	
20	Bldg	Gabled	
21	Bldg	Flat	
22	Structure	Gabled	
23	Bldg	Hipped	
24	Structure	Gabled	
25	Structure	Gabled	
26	Bldg	Hipped	
27	Structure	Gabled	
28	Structure	Gabled	
29	Bldg	Hipped	
30	Bldg	Gabled	
31	Bldg	Flat	
32	Bldg	Flat	
33	Missile-hold bldg	Flat	
34	Missile storage bldg	Flat	
35	3 propellant storage tanks	--	
36	3 propellant storage tanks	--	
37	Missile checkout bldg	Flat	
38	Missile assembly and checkout bldg	Flat	
39	Bldg	Flat	
40	Bunker	--	

Item	Distance in Feet* (Center to center)	Item	Distance in Feet* (Center to center)	
A - a		A1 - A2		
B - b		A2 - A3		
C - c		A3 - A4		
A - B		A4 - A5		
B - C		A5 - A6		
C - A		A6 - A1		
a - b		A1 - A		
b - c		A2 - A		
c - a	A3 - A			
The following measurements given for Launch Site A are also representative of the distance between the corresponding points in Launch Sites B and C.		A4 - A		
		A5 - A		
		A6 - A		

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